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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/539,024	03/30/2000	Steven G. Glassen	POU9-1999-0176-US1	7679

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Blanche E Schiller Esq  
Heslin and Rothenberg P C  
5 Columbia Circle  
Albany, NY 12203

EXAMINER
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KING, JUSTIN

ART UNIT	PAPER NUMBER
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2111

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/539,024

Applicant(s)

GLASSEN ET AL.

Examiner

Justin I. King

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-- **Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☒ Interview Summary (PTO-413) Paper No(s). 15.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other:

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments see paper#14, filed 10/6/03, with respect to rejections to claims 1-54 have been fully considered and are persuasive. The previous final rejection has been withdrawn.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 10-16, 18-25, 30-34, 36-54 are rejected under 35 U.S.C. 102(b) as being anticipated by Galbraith et al. (U.S. Patent No. 5,265,240).

Referring to claim 1: Galbraith discloses a method of determining utilization of channel components of a computing environment, comprises obtaining measurement data for a selected component of a channel (claim 5's 2<sup>nd</sup> limitation, measuring the channel time segment) with a plurality of components (figure 1), and using the measurement data to determine utilization of the selected component (column 3, lines 54-68, column 4, lines 1-12). Hence, the claim is anticipated by Galbraith.

Referring to claim 2: Galbraith discloses a plurality of OS, each OS has its own assigned storage portion (claim 1, first limitation) for receiving/dispatching data. Galbraith discloses measuring each OS' activity individually; hence, Galbraith discloses measurement data for

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multiple components of said plurality of components, and measuring utilization for each of the multiple components. Hence, the claim is anticipated by Galbraith.

Referring to claims 3-4: Galbraith discloses measuring each operation system's time segment, which is obtaining the one operational characteristic and determining the utilization.

Referring to claim 5: Galbraith discloses that the statistical technique is known in measuring the resource consumption (column 2, lines 21-26), which includes obtaining measurement data over at least two predefined intervals (column 2, lines 22-23, periodically examining the busy status), and the statistical techniques include the means for calculating the average.

Referring to claim 10: Galbraith discloses an internal bus (figure 1, link between I/O processor and channel processor), a channel processor (figure 1), and external link (column 3, line 3, the I/O device).

Referring to claims 11-12: Galbraith discloses a plurality of logical partitions (column 4, lines 15-16) and measuring the utilization for each logical partition (column 2, lines 6-14).

Referring to claims 13-14: Claims 13-14 are rejected over Galbraith as stated above; furthermore, Galbraith discloses the channel-path-measurement facility (column 1, lines 8-9). Galbraith discloses several different modes, the non-hypervisor mode and hypervisor mode for the measuring instructions (column 12, lines 8-21, column 13, lines 14-66). Thus, Galbraith discloses the claimed first mode and second mode. Galbraith discloses executing a plurality of concurrently processed measurements (column 6, lines 60-62), thus Galbraith discloses concurrently executing the first mode and second mode.

plurality of measurement instructions concurrently executing in different modes.

Referring to claim 15: Galbraith discloses a method of determining utilization of channel components of a computing environment, including the channel processor to control and monitor its associated channel (column 5, lines 44-45); hence, Galbraith discloses selecting a channel to be monitored. Galbraith further discloses the channel comprising a plurality of components (figure 1), and obtaining measurement data for a selected component of a channel (claim 5's 2<sup>nd</sup> limitation, measuring the channel time segment). Hence, claim is anticipated by Galbraith.

Referring to claim 16: Claim 16 is rejected as the claim 3's argument above.

Referring to claim 18: Claim 18 is rejected as the claim 2's argument above.

Referring to claim 19: Claim 19 is rejected as the claims 2-3's arguments above.

Referring to claim 20: Galbraith discloses a method of determining utilization of channel components of a computing environment, comprises obtaining measurement data for a selected component of a channel (claim 5's 2<sup>nd</sup> limitation, measuring the channel time segment) with a plurality of components (figure 1), and using the measurement data to determine utilization of the selected component (column 3, lines 54-68, column 4, lines 1-12). Furthermore, Galbraith discloses the channel-path-measurement facility (column 1, lines 8-9). Galbraith discloses several different modes, the non-hypervisor mode and hypervisor mode for the measuring instructions (column 12, lines 8-21, column 13, lines 14-66). Thus, Galbraith discloses the claimed first mode and second mode. Galbraith discloses executing a plurality of concurrently processed measurements (column 6, lines 60-62), thus Galbraith discloses concurrently executing the first mode and second mode. Therefore, the claim is anticipated by Galbraith.

Referring to claim 21: Galbraith discloses a method of determining utilization of channel components of a computing environment, comprises obtaining measurement data for a selected component of a channel (claim 5's 2<sup>nd</sup> limitation, measuring the channel time segment) with a

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plurality of components (figure 1), and using the measurement data to determine utilization of the selected component (column 3, lines 54-68, column 4, lines 1-12). Hence, the claim is anticipated by Galbraith.

Referring to claim 22: Claim 22 is rejected as the claim 2's argument above.

Referring to claim 23: Claim 23 is rejected as the claim 3's argument above.

Referring to claim 24: Claim 24 is rejected as the claim 4's argument above.

Referring to claim 25: Claim 25 is rejected as the claim 5's argument above.

Referring to claim 30: Galbraith discloses an internal bus (figure 1, link between I/O processor and channel processor), a channel processor (figure 1), and external link (column 3, line 3, the I/O device).

Referring to claims 31-32: Claims 31-32 are rejected as the claims 11-12's arguments above.

Referring to claim 33: Galbraith discloses a method of determining utilization of channel components of a computing environment, including the channel processor to control and monitor its associated channel (column 5, lines 44-45); hence, Galbraith discloses selecting a channel to be monitored. Galbraith further discloses the channel comprising a plurality of components (figure 1), and obtaining measurement data for a selected component of a channel (claim 5's 2<sup>nd</sup> limitation, measuring the channel time segment). Hence, claim is anticipated by Galbraith.

Referring to claim 34: Claim 34 is rejected as the claim 16's argument above.

Referring to claim 36: Claim 36 is rejected as the claim 18's argument above.

Referring to claim 37: Claim 37 is rejected as the claim 19's argument above.

Referring to claim 38: Galbraith discloses a method of determining utilization of channel components of a computing environment, comprises obtaining measurement data for a selected

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component of a channel (claim 5's 2<sup>nd</sup> limitation, measuring the channel time segment) with a plurality of components (figure 1), and using the measurement data to determine utilization of the selected component (column 3, lines 54-68, column 4, lines 1-12). Furthermore, Galbraith discloses the channel-path-measurement facility (column 1, lines 8-9) and a plurality of concurrently processed measurements (column 6, lines 60-62). In addition, Galbraith also discloses several different modes for the measuring instructions (column 12m, lines 8-21, column 13, lines 14-66). Thus, Galbraith discloses a plurality of measurement instructions concurrently executing in different modes. Therefore, the claim is anticipated by Galbraith.

Referring to claim 39: Galbraith discloses a channel processor to monitor and control the channel status, the channel processor is the processor obtaining measurement data for a selected component. Galbraith discloses a channel measurement facility (claim 5, lines 43-48), which is the processor to determine the utilization. Hence, claim is anticipated by Galbraith.

Referring to claim 40: Galbraith discloses a channel comprised a plurality of components (figure 1), and a channel processor to obtain data (column 5, lines 43-48, claim 5, lines 35-39). Hence, claim is anticipated by Galbraith.

Referring to claim 41: Galbraith discloses a plurality of logical partitions (column 4, lines 15-16) and measuring the utilization for each logical partition (column 2, lines 6-14). Galbraith discloses a channel processor to monitor and control the channel status; the channel processor is the processor obtaining measurement data for a selected component. Galbraith discloses a channel measurement facility (claim 5, lines 43-48), which is the processor to determine the utilization. Hence, claim is anticipated by Galbraith.

Referring to claim 42: Galbraith discloses a method of determining utilization of channel components of a computing environment, comprises obtaining measurement data for a selected

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component of a channel (claim 5's 2<sup>nd</sup> limitation, measuring the channel time segment) with a plurality of components (figure 1), and using the measurement data to determine utilization of the selected component (column 3, lines 54-68, column 4, lines 1-12). Hence, the claim is anticipated by Galbraith.

Referring to claim 43: Claim 43 is rejected as the claim 2's argument above.

Referring to claims 44-45: Claims 44-45 are rejected as the claims 3-4's arguments above.

Referring to claim 46: Claim 46 is rejected as the claim 5's argument above.

Referring to claim 47: Claim 47 is rejected as the claim 10's argument above.

Referring to claims 48-49: Claims 48-49 are rejected as the claims 11-12's arguments above.

Referring to claim 50: Galbraith discloses a method of determining utilization of channel components of a computing environment, including the channel processor to control and monitor its associated channel (column 5, lines 44-45); hence, Galbraith discloses selecting a channel to be monitored. Galbraith further discloses the channel comprising a plurality of components (figure 1), and obtaining measurement data for a selected component of a channel (claim 5's 2<sup>nd</sup> limitation, measuring the channel time segment). Hence, claim is anticipated by Galbraith.

Referring to claim 51: Claim 51 is rejected as the claim 16's argument above.

Referring to claim 52: Claim 52 is rejected as the claim 18's argument above.

Referring to claim 53: Claim 53 is rejected as the claim 19's argument above.

Referring to claim 54: Galbraith discloses a method of determining utilization of channel components of a computing environment, comprises obtaining measurement data for a selected component of a channel (claim 5's 2<sup>nd</sup> limitation, measuring the channel time segment) with a



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plurality of components (figure 1), and using the measurement data to determine utilization of the selected component (column 3, lines 54-68, column 4, lines 1-12). Furthermore, Galbraith discloses the channel-path-measurement facility (column 1, lines 8-9) and a plurality of concurrently processed measurements (column 6, lines 60-62). In addition, Galbraith also discloses several different modes for the measuring instructions (column 12m, lines 8-21, column 13, lines 14-66). Thus, Galbraith discloses a plurality of measurement instructions concurrently executing in different modes. Therefore, the claim is anticipated by Galbraith.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 6-7, 17, 26-27, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of the Galbraith and Blasciak (U.S. Patent No. 4845,615).

Referring to claims 6-7, 17, 26-27, 35: Galbraith's disclosure is stated above. Galbraith does not explicitly disclose factoring the maximum number of bus cycles. Blasciak discloses a

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system performance analyzer including a module duration measurement measuring performance and system utilization with the minimum lower limit and the maximum upper limit of the bus cycle, and these limits depend upon the bus cycle speed (column 6, lines 33-38). Although Blasciak focuses the bus cycle primarily on analyzing the software efficiency, Blasciak teaches one to factor the bus cycle/bandwidth as one of the system resources in calculating the system resource consumption.

Hence, it would have been obvious to one having ordinary computer skill at the time Applicant made the invention to adapt Blasciak's teaching to Galbraith because Blasciak teaches one to analyze the system performance and to seek possible way to improve performance by factoring the bus cycle/bandwidth as one of the system resources in calculating the system resource consumption.

7. Claims 8-9, 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of the Galbraith and LANQuest by Novell®.

Referring to claims 8 and 28: Galbraith discloses a plurality of channel processors and physical channels (figure 1), and each channel processor may be shared among a plurality of channels or dedicated to a particular channel (column 5, lines 39-42). Since Galbraith measures each channel configured to each respective OS (column 5, lines 59-62), Galbraith factors the number of the channel work units. But Galbraith does not explicitly measure the channel processor's utilization; it uses the channel processor to controls and monitors the busy state of its channel (column 5, lines 44-45). LANQuest discloses measuring server CPU's speed and efficiency in evaluating workload; thus, LANQuest teaches that it is known to measure processor's activities in evaluating workload. Therefore, it would have been obvious to one

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having ordinary skill in the computer art to adapt LANQuest's teaching to Galbraith because LANQuest teaches one to measure the workloads of the shared systems and components including the processors for fine-tuning the system performance.

Referring to claims 9 and 29: Galbraith discloses that it is known each channel would have devices attached (column 3, lines 1-11; column 4, line 29), but Galbraith does not explicitly disclose the number of written data units, read data, and size of data units. LANQuest discloses the size of the data units in evaluating the workload efficiency (part of measuring the RAM Performance and Network Operating System Performance). Therefore, it would have been obvious to one having ordinary skill in the computer art to adapt LANQuest's teaching to Galbraith because LANQuest teaches one to measure the workloads of the shared systems and components including the characteristics of the transferring data blocks for fine-tuning the system performance.

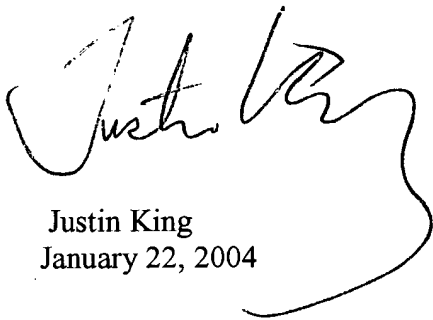
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***Conclusion***


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin King whose telephone number is (703) 305-4571. The examiner can normally be reached on Monday through Friday from 9:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephones are unsuccessfully, the examiner's supervisor, Mark Reinhart can be reached at (703) 308-3110.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose number is (703)-306-5631.



Justin King  
January 22, 2004



XUAN M. THAI  
PRIMARY EXAMINER  
TC2100